

## 基于直流潮流的网损微增率算法

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### 摘要

介绍了一种基于直流潮流的网损微增率新算法直流雅可比矩阵法, 该方法以直流潮流为基础, 引入虚拟网损负荷变量并构造出带有松弛负荷变量的有功不平衡方程雅的可比矩阵, 在解潮流过程中只需求解n阶矩阵的转置矩阵, 即可获得各个节点的网损微增率。算例表明, 直流雅可比矩阵法在计算速度和优化结果等方面都具有很大的优越性。

关键词 [网损微增率; 负荷经济分配; 雅可比矩阵; 电力系统](#)

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## An Incremental Transmission Loss Algorithm Based on DC Power Flow

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### Abstract

In this paper a novel DC power flow based algorithm for incremental transmission losses, i.e., DC Jacobian matrix method, is proposed. Based on DC power flow, a pseudo load variable used to balance network losses is led into the proposed algorithm, and corresponding Jacobian Matrix for unbalanced active power equations with relax load variables is constructed. During the process of solving power flow, the incremental transmission loss of each node can be easily obtained by means of simply solving the transposed matrix of original n-order matrix. Results of calculation examples show that the proposed DC Jacobian matrix method is of superiority in computation speed and optimal result.

Key words [incremental transmission losses; economic load dispatch; Jacobian matrix; power system](#)

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